

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/076975 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/US2005/003754

(22) International Filing Date: 4 February 2005 (04.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/542,371 6 February 2004 (06.02.2004) US

(71) Applicant (for all designated States except US): MAYO
FOUNDATION FOR MEDICAL EDUCATION AND
RESEARCH [US/US]; 200 First Street S. W., Rochester,
MN 55905 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WETTSTEIN,
Peter, J. [US/US]; 508 8th Avenue SW, Rochester, MN

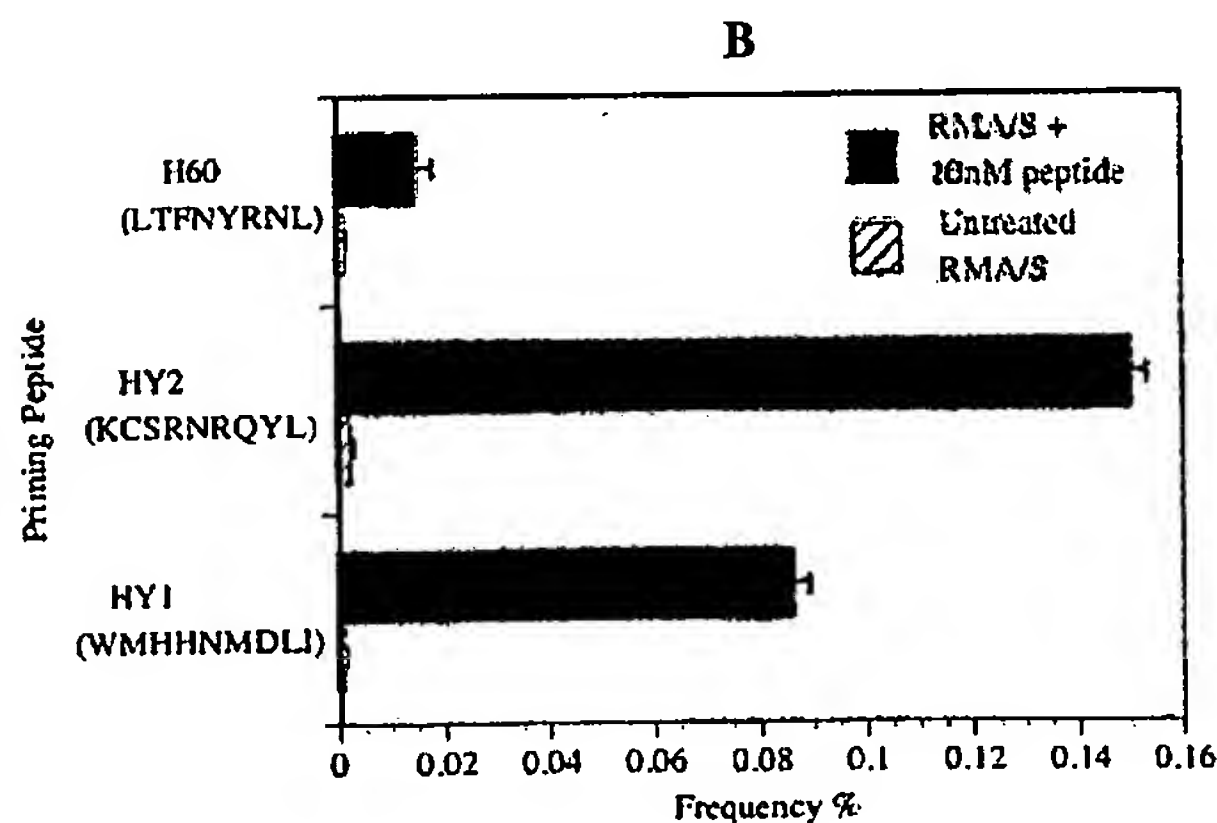
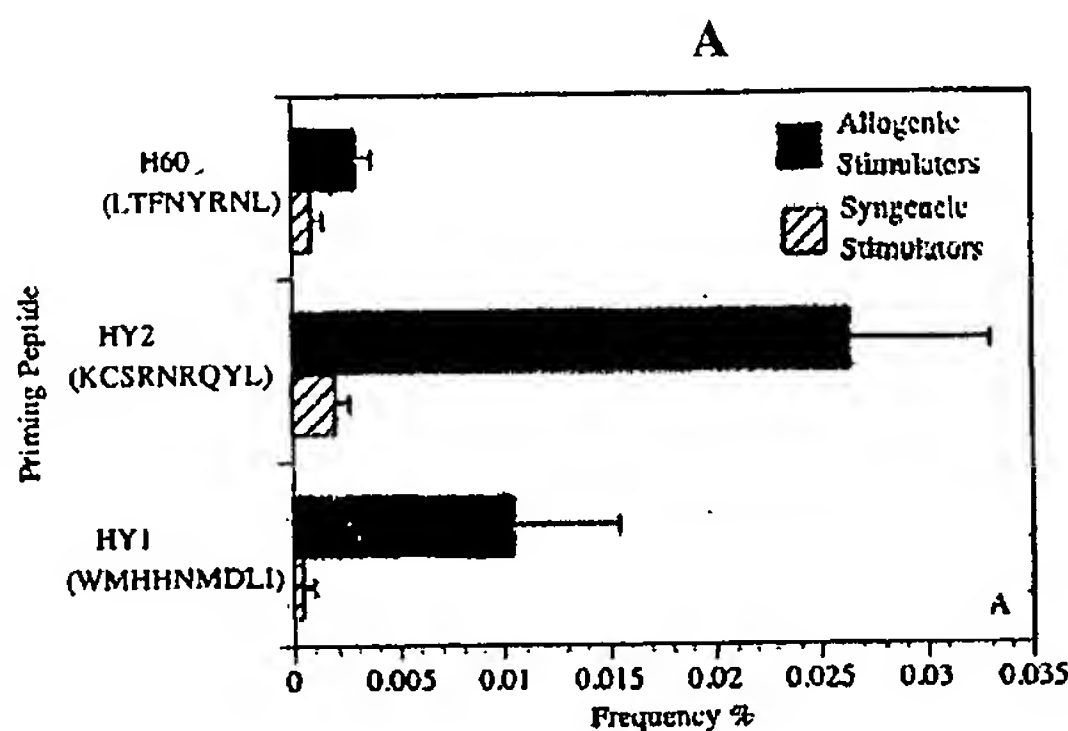
55902 (US). STRAUSBAUCH, Mike [US/US]; 4404
8th Street N.W., Rochester, MN 55901 (US). HARDIN,
Heather [US/US]; 724 18th Avenue NE, Rochester, MN
55906 (US). BORSON, Nancy [US/US]; 415 15th Avenue
NE, Rochester, MN 55906 (US).

(74) Agent: ELLINGER, Mark, S.; Fish & Richardson P.C.,
P.A., 60 South Sixth Street, Suite 3300, Minneapolis, MN
55402-1104 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

[Continued on next page]

(54) Title: COMPLEXED POLYPEPTIDE AND ADJUVANT FOR IMPROVED VACCINES



(57) Abstract: Attachment of the strongly immuno-
genic polypeptide to a more weakly immunogenic
polypeptide can precipitate and focus a CpG adjuvant
to increase *in vivo* priming of a cytotoxic T-lymphocyte
(CTL) response, and thus increase the immunogenicity
of the more weakly immunogenic polypeptide.
Accordingly, compositions that include a bipartite
immunogenic polypeptide are provided herein. The
bipartite polypeptide can include a CpG-interacting
amino acid sequence fused to a CTL-activating
amino acid sequence that can be heterologous to the
CpG-interacting amino acid sequence. Also provided
are methods of identifying and using a CpG-interacting
amino acid sequence and a bipartite immunogenic
polypeptide.

WO 2005/076975 A2



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.